

Command holder cover for the mechanical gearbox of a vehicle

Patent number: EP1065416
Publication date: 2001-01-03
Inventor: BORDENCA CALOGERO (IT); PASTORELLO VALTER (IT)
Applicant: FIAT AUTO SPA (IT)
Classification:
 - international: F16H63/08; F16H63/20
 - european: F16H63/08
Application number: EP19990125363 19991220
Priority number(s): IT1999TO00127U 19990701

Also published as:

 EP1065416 (A)

Cited documents:

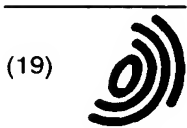
 US4335623
 US2951392
 US3857299
 EP0117341

Abstract of EP1065416

The invention is directed to a cover (1) for the mechanical gearbox of a vehicle, equipped with seats for the mounting screws (3) and for the insertion and the support of the end section of the command group, as well as seats (18,19) for the support spindle of the control forks (8) of the forward gears.

Data supplied from the **esp@cenet** database - Worldwide

THIS PAGE BLANK (USPTO)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) EP 1 065 416 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
03.01.2001 Bulletin 2001/01

(51) Int Cl.7: F16H 63/08
// F16H63:20

(21) Application number: 99125363.4

(22) Date of filing: 20.12.1999

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
• Bordenca, Calogero
80040 Pollenta (NA) (IT)
• Pastorello, Valter
10040 Cumiana (TO) (IT)

(30) Priority: 01.07.1999 IT TO990127 U

(74) Representative: Di Francesco, Gianni et al
Ing. Barzanò & Zanardo Milano S.p.A.
Corso Vittorio Emanuele II, 61
10128 Torino (IT)

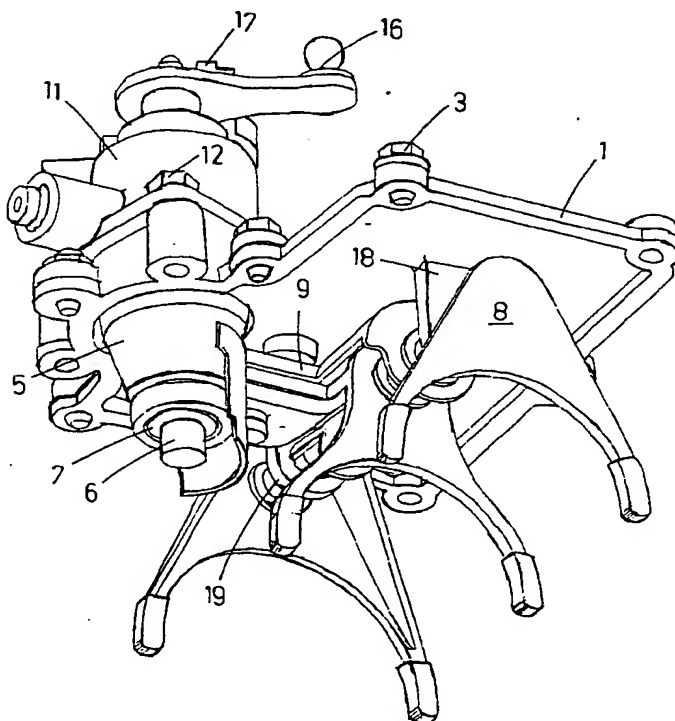
(71) Applicant: FIAT AUTO S.p.A.
10135 Torino (IT)

(54) Command holder cover for the mechanical gearbox of a vehicle

(57) The invention is directed to a cover (1) for the mechanical gearbox of a vehicle, equipped with seats for the mounting screws (3) and for the insertion and the

support of the end section of the command group, as well as seats (18,19) for the support spindle of the control forks (8) of the forward gears.

FIG.1



EP 1 065 416 A2

Description

[0001] The present invention relates to a mechanical gearbox for vehicles and more particularly to the mounting of its commands on the cover of said gearbox.

[0002] Other proceedings are known from the state of the art, for the pre-assembly of the gearbox commands, which provide for the line side pre-mounting of some of the components of the gearbox command system. In particular are known, the pre-assembly of the command levers of the command spindle and thereafter their mounting on the cover of the gearbox bearing the commands. According to the previous technique, it is also known the pre-assembling of the forks on the spindle and the subsequent insertion of the mounted group in the gearbox, before it is closed via the cover equipped with the above-described commands. The pre-assemblies described make it possible to save time when mounting the gearbox, simplify processing and make component assembly possible in more appropriate areas. Pre-mounted pieces can also be tested before they are mounted on the gearbox.

[0003] The object of the present invention is to increase the possibility of implementing the above mentioned conditions, allowing for the line side pre-assembly of a larger number of components, without necessarily limiting the overall reliability of the gearbox.

[0004] This object is achieved by the present invention, which deals with the cover for the case of a mechanical gearbox for motor vehicles, presenting the characteristics claimed in claim 1.

[0005] Other characteristics and advantages will appear clear in the following description, reference being made to the accompanying drawings, provided for illustration purposes only :

- Figure 1 is a perspective view of the cover object of this invention;
- Figure 2 is a transversal sectional view of the cover in Figure 1; with the command spindle and the group of forward gear forks.

[0006] Reference being made to the figures, whereby 1 indicates the cover of case 2 of the mechanical gearbox of a vehicle, equipped with screws 3 to mount said cover on said case. A seat 5 on the cover is obtained by fusion and is designed to house the end of command spindle 6 of the gearbox, which can rotate and move in a roller bearing 7. Said end includes a driving nib (not visible) that engages the various forks 8 for getting into each gear once respective nib 9 has been selected via the movement of spindle 6. A support 11 is connected via screws 12 to cover 1 and allows the retention of a second bearing 14 where the other end section of spindle 1 rotates and moves. Said end section being connected to command levers 16 and 17 for the selection and insertion of the gears. Two brackets 18 and 19, obtained by fusion, make it possible to connect the assembly of the gearbox command forks acting on secondary shaft 21, except for the fork of the reverse gear, to cover 1, in an appropriate position.

[0007] Consequently, the cover of the present invention, equipped with both the seat for the spindle and the brackets for the command assembly of the forks, makes it possible to assemble the gearbox commands on the line side, and to test them before they are mounted on the gearbox itself. This operation is very easy and is simplified by the fact that all the commands are already assembled in an operational position.

Claims

1. Cover for the case of a mechanical gearbox for motor vehicles, equipped with seats for the mounting screws and characterised by the fact that is equipped with either a seat (5) for the insertion and the support of the end section of the command group with the spindle (6) for gearbox selection and insertion, or with seats (18, 19) for the connection of the support spindle of the group of forks (8) for the insertion of the forward gears, making it possible to mount the two groups at the side of the assembly line of the gearbox.
2. Cover according to claim 1, characterised by the fact that the seats (5, 18, 19) are obtained by fusion.

FIG.1

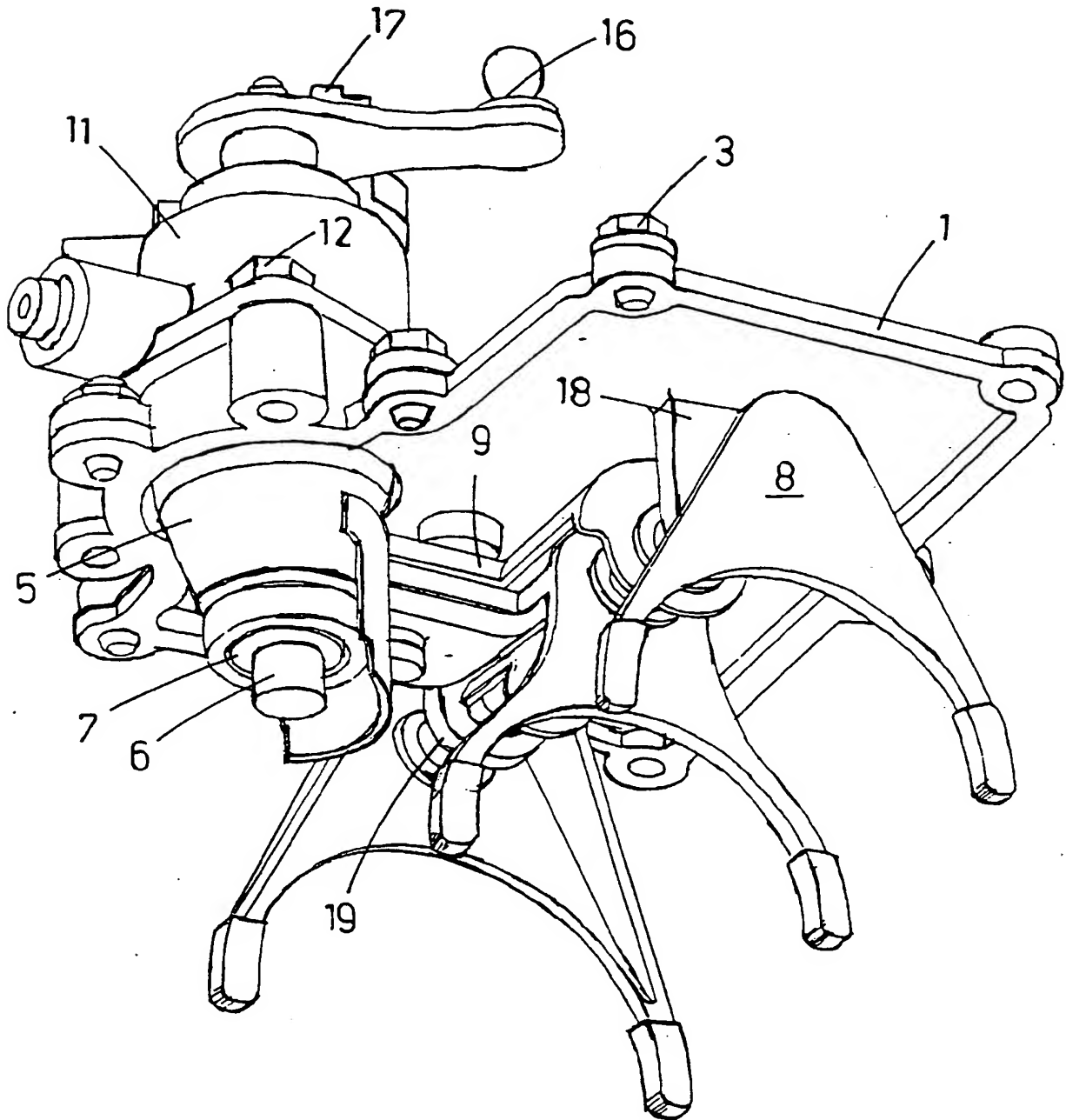
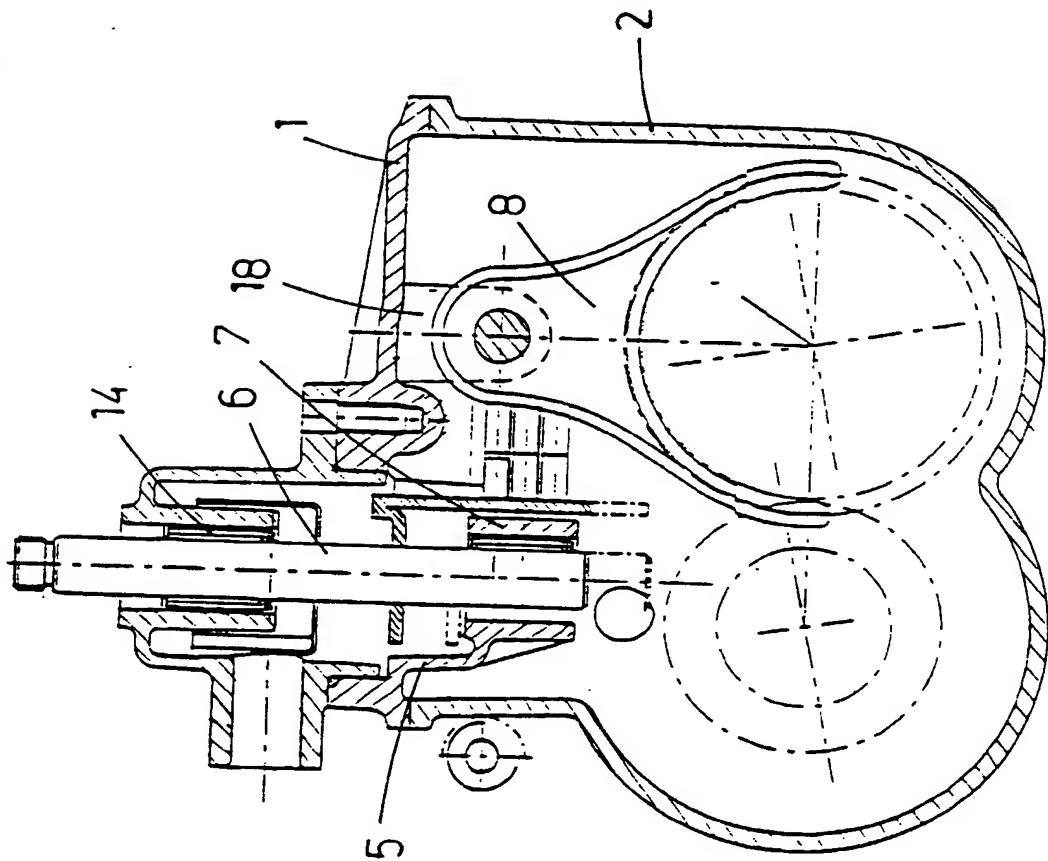


FIG.2



(19)



Europäische Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 065 416 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
10.12.2003 Bulletin 2003/50

(51) Int Cl.7: **F16H 63/08**
// F16H63:20

(43) Date of publication A2:
03.01.2001 Bulletin 2001/01

(21) Application number: **99125363.4**

(22) Date of filing: **20.12.1999**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
• **Bordenca, Calogero**
80040 Pollenta (NA) (IT)
• **Pastorello, Valter**
10040 Cumiana (TO) (IT)

(30) Priority: **01.07.1999 IT TO990127 U**

(74) Representative: **Di Francesco, Gianni et al**
Ing. Barzanò & Zanardo Milano S.p.A.
Corso Vittorio Emanuele II, 61
10128 Torino (IT)

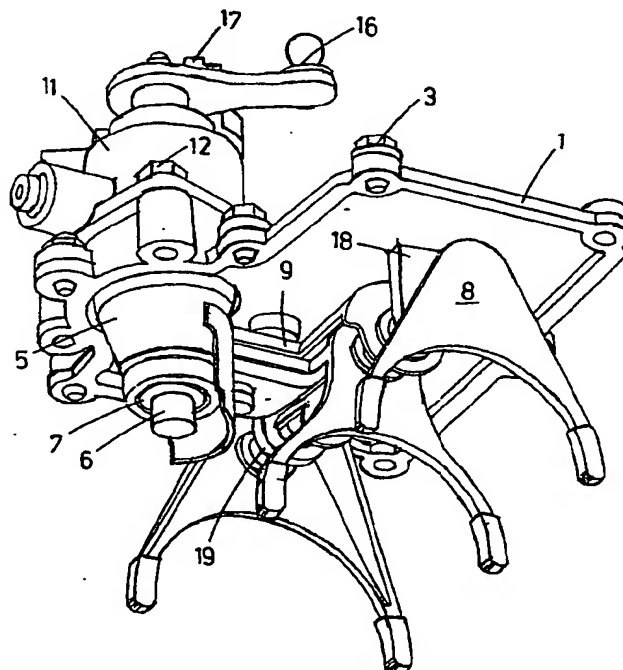
(71) Applicant: **FIAT AUTO S.p.A.**
10135 Torino (IT)

(54) **Command holder cover for the mechanical gearbox of a vehicle**

(57) The invention is directed to a cover (1) for the mechanical gearbox of a vehicle, equipped with seats for the mounting screws (3) and for the insertion and the

support of the end section of the command group, as well as seats (18,19) for the support spindle of the control forks (8) of the forward gears.

FIG.1





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 99 12 5363

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 4 335 623 A (KRONSTADT VICTOR) 22 June 1982 (1982-06-22) * the whole document *	1,2	F16H63/08 //F16H63:20
X	US 2 951 392 A (THOMAS BACKUS) 6 September 1960 (1960-09-06) * column 3, line 9-32; figures 1,2 *	1,2	
X	US 3 857 299 A (MORRISON W) 31 December 1974 (1974-12-31) * the whole document *	1,2	
X	EP 0 117 341 A (EATON CORP) 5 September 1984 (1984-09-05) * the whole document *	1,2	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			F16H
Place of search MUNICH		Date of completion of the search 21 October 2003	Examiner Martinvalet, C-I
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 (3.8.92) (PUB.01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 99 12 5363

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-10-2003

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4335623	A	22-06-1982	NONE	
US 2951392	A	06-09-1960	NONE	
US 3857299	A	31-12-1974	GB 1408311 A	01-10-1975
			AU 475450 B2	26-08-1976
			AU 5284373 A	05-09-1974
			CA 996452 A1	07-09-1976
			DE 2313366 A1	20-09-1973
			ES 412678 A1	01-01-1976
			FR 2177112 A1	02-11-1973
			IT 980617 B	10-10-1974
			JP 1139727 C	24-03-1983
			JP 49006356 A	21-01-1974
			JP 57016364 B	05-04-1982
			SE 378560 B	08-09-1975
EP 0117341	A	05-09-1984	US 4550627 A	05-11-1985
			BR 8306812 A	17-07-1984
			DE 3377002 D1	14-07-1988
			EP 0117341 A2	05-09-1984
			JP 59112319 A	28-06-1984

EPO FORM P0453

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

